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UNIVERSITI TEKNIKAL MALAYSIA MELAKA

**Faculty of Technology Management and Technopreneurship**

# ANALYSING THE INFLUENCE OF FIRM SIZE ON FINANCIAL PERFORMANCE IN MALAYSIAN ICT SECTOR

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# ANALYSING THE INFLUENCE OF FIRM SIZE ON FINANCIAL PERFORMANCE IN MALAYSIAN ICT SECTOR

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**A thesis submitted**
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# DECLARATION

I declare that this thesis entitled "Analysing the Influence of Firm Size on Financial Performance in Malaysian ICT Sector" is the result of my own research except as cited in the references. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

Signature : li

Name : BRENDA LIM XUN LI

Date : 1/8/2018

## APPROVAL

I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of Master of Science in Technology Management.

Signature : ..............................................................................

Supervisor Name : DR. MOHD FAZLI BIN MOHD SAM

Date : 1 / 8 / 2018

## DEDICATION

This thesis is dedicated to my beloved parents, who have always loved me unconditionally and constantly give me support and encouragement throughout the process without their blessing and encouragement, this thesis is impossible to complete.

## ABSTRACT

This empirical study examines the influence of firm size on the financial performance of Malaysian Information and Communication Technology (ICT) listed companies. The study utilised a sample of 53 of ICT listed companies derived from the Osiris database for the period covering 2008 – 2012. The independent variable is firm size, which is measured by proxies such as total assets, market capitalisation and total sales, while the dependent variables, firm financial performance, is measured by profitability ratios (return on assets (ROA), return on equity (ROE), profit margin). Based on the review of literature in this study, the conceptual framework was proposed and the hypotheses of this study were developed to examine the relationship between the variables of firm size and firm financial performance. Besides, the multiple regression analysis was used in analysing the data collected in this study. The finding of the study showed that firm size, which used the proxy of total asset, market capitalisation and total sales, has a significant effect on firm financial performance in terms of ROE. On the other hand, there is no significant effect in the result between firm size and firm performance in terms of ROA and profit margin. The study concluded that it provides a useful insight to different users, who can benefit from the financial information and assist them in their decision making processes by understanding the nature of the firms' size and financial information in evaluating the firms' performance. On this ground, the study recommended that the government or firms should implement a guideline that provides comprehensive financial information for various entities. This in turn will provides a better evaluation and qualitative judgment on companies' financial performance.

# *ABSTRAK*

*Kajian empirikal ini mengkaji pengaruh saiz syarikat terhadap prestasi kewangan firma di syarikat yang tersenarai di sector ICT Malaysia. Kajian ini menggunakan sampel 53 dari syarikat tersenarai ICT yang berasal dari pangkalan data Osiris untuk tempoh yang meliputi 2008 - 2012. Pembolehubah bebas adalah ukuran saiz firma yang diukur dengan jumlah aset, permodalan pasaran dan jumlah penjualan sementara ukuran kewangan firma oleh nisbah keuntungan (ROA, ROE, margin keuntungan) sebagai variabel dependen. Berdasarkan kajian literatur dalam kajian ini, rangka kerja konseptual telah dicadangkan dan hipotesis kajian ini dikembangkan untuk memeriksa hubungan antara pembolehubah ukuran firma dan prestasi kewangan firma. Selain itu, analisis regresi berganda digunakan dalam menganalisis data yang dikumpulkan dalam kajian ini. Dapatan kajian menunjukkan bahawa saiz firma yang menggunakan proksi jumlah aset, permodalan pasaran dan jumlah jualan mempunyai kesan yang signifikan ke atas prestasi kewangan firma dari segi ROE sementara antara saiz firma dan prestasi firma dari segi ROA dan margin keuntungan di sana tiada kesan yang signifikan dalam hasilnya. Kajian ini menyimpulkan bahawa ia memberikan wawasan yang berguna kepada pengguna yang berbeza yang dapat memanfaatkan maklumat kewangan sejauh mana dan membantu mereka dalam proses membuat keputusan mereka dan memahami sifat saiz dan maklumat firma dalam menilai prestasi firma. Atas alasan ini, kajian ini menyarankan agar kerajaan atau firma harus melaksanakan garis panduan yang menyediakan maklumat kewangan komprehensif untuk pelbagai entiti. Ini seterusnya akan memberikan penilaian yang lebih baik dan membuat pertimbangan kualitatif terhadap prestasi kewangan syarikat.*

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## LIST OF ABBREVIATIONS/SYMBOLS

| | | |
|---|---|---|
| EBIT | - | Earning before Interest and Taxes |
| EBITDA | - | Earning before Interest, Taxes, Depreciation and Amortization |
| ETF | - | Exchange-Traded Fund |
| EVA | - | Economic Value added |
| GDP | - | Gross Domestic Product |
| GICS | - | Classification Standards |
| ICT | - | Information and Communication Technology |
| IT | - | Information Technology |
| ITA | - | International Trade Administration |
| ITU | - | International Telecommunication Union |
| MDEC | - | Malaysia Digital Economy Corporation |
| MSC | - | Multimedia Super Corridor |
| NITC | - | National Information Technology Council |
| OECD | - | Organization for Economic Co-operation and Development |
| PM | - | Profit Margin |
| PPE | - | Property, Plant, and Equipment |
| R&D | - | Research and Development |
| REIT | - | Real Estate Investment Trust |
| REVA | - | Refined Economic Value Added |
| ROA | - | Return on Assets |

| | | |
|---|---|---|
| ROE | - | Return on Equity |
| ROI | - | Return on Investment |
| SME | - | Small Medium Enterprise |
| SPSS | - | Statistical Package for the Social Sciences |
| VAIC | - | Value-added Intellectual Coefficient |
| VIF | - | Variance Inflation Factor |

## LIST OF PUBLICATIONS

1. Sam, M.F.M, B.X.L. Lim & A.F. Ismail, 2018. Analysing of Profitability and Performance of ICT Sector in Malaysia by Using Financial Statements. *Advanced Science Letters*, 24(7), pp. 5451-5455(5)
2. Sam, M.F.M., B.X.L. Lim & A.F. Ismail, 2017. Analysing the Financial Performance of Telecommunication Companies in Malaysia by Using Financial Statements. *Advanced Science Letters,* 23(8), pp. 7641-7644(4)

# CHAPTER 1

# INTRODUCTION

## 1.1 Chapter Overview

The purpose of this chapter is to present the effect of firm size on the financial performance of the Information and Communication Technology (ICT) sector in Malaysia. This chapter begins with the background of the study in Section 1.1, which briefly describes the effect of firm size towards the financial performance of Malaysian ICT firms and the development trend in Malaysia. Next, Section 1.2 discusses the problem statement that establishes the importance of this research and identifies the gaps and problems faced in firm size and firm financial performance in the Malaysian ICT sector. This is followed by the next part which includes the research questions and research objectives. The research questions highlight the questions that need to be answered in this research, while the objectives are the major intent of this research, both of which will be discussed in this chapter. However, in this study the scope and limitation explain the extent and constraints of the research. Lastly, this chapter concludes with a summary that summarises the discussion in Chapter 1

## 1.2 Background of Study

As the Malaysian economy became more developed, Malaysia underwent a structural shift from manufacturing-based to a service-oriented economy from 1971 to 2007, and in 2008, the government accorded that the services sector, as well as ICT sector, had full potential in advancing Malaysia to a high-income economy (Malaysian Ministry of

Finance 2009). The development of the ICT industry not only benefitted a single industry, but it also complemented and supported the development of other industry sectors, which led to increasing development for the government, private sector, and the people of Malaysia (Acutance Sdn Bhd 2013). In addition, ITU (2012) stated that Malaysia adopted the National Policy in 2010 for the implementation of the flagship initiative, Multimedia Super Corridor (MSC) to develop the ICT service in Malaysia and aim to meet the nation's Vision 2020 mission of attaining a developed nation status. The Eleventh Malaysia Plan is the final leg in the journey to achieving Vision 2020 which shows that the future ICT technology trends will take the advantage of the power of the network, and digital transformation to change the way of doing business and achieve sustainability (MAMPU 2016). In the previous empirical studies, Niresh and Velnampy (2014) examined the listed manufacturing firms in Sri Lanka on how firm size affects the firm's profitability; Prasetyantoko and Parmono (2012) identified the organisational growth contribution to profitability in Malaysian public listed companies; Hock Ng et al. (2013) explore the Malaysian insurance industry to identify the impact of size and risk raking; Ramin et al. (2017) examined firm size and solvency performance in Malaysian public listed firms. Nevertheless, there are still very few empirical studies on firm performance in the ICT sector in Malaysia.

Several studies have explored the different factors that influence firm performance towards their business success. However, the size of the firm is one of the most important factors that affect firm performance (Prasetyantoko & Parmono, 2012). Firm size can be define as the production capacity and the ability of a firm to provide products and services to its customer (Niresh & Velnampy, 2014). Abbasi and Malik (2015) stated that the size of the firm is a vital predictor of the firm's performance as the results from previous studies explained that bigger firms have a satisfactory profitability in contrast to smaller firms that do not have the ability to compete with larger sized firms. This is due to the fact that larger firms have better management as the firms' managers aim to pursue self-interested goals as well as aim to achieve the firms' objective in the maximisation of the firms' profit (Niresh & Velnampy, 2014). Besides, firm size and firm performance are some of the variables that are able to determine the profitability of the firm. The relationship can be found in the traditional neo classical view of the firm with the concept that is known as economies of scale (Garcia Martinez et al., 2006; Prasetyantoko & Parmono, 2012; Niresh & Velnampy, 2014). However, Pervan and Višić (2012) explained that this concept may occur for different reasons; for example, in terms of financial reason, large organisations can gain better interest rate or higher rate of reduction because of their high quantity in purchase; while in terms of technical reasons, organisational factors that have a better division of labour and specialisation show high fixed costs in large units. It is revealed that the products can be produced with lower costs by firms that are larger in size. In line with this concept, it is expected that between firm size and firm financial performance, there is a positive relationship. Trigueiros (2000) stated that firm size remains to be not clearly defined as to where the use of size is required by the theory, while empirical studies generally reverted to some proxy, for example quantity of employees, total assets, sales, or market capitalisation. Thus, in this research, the variables such as total assets, total sales, and market capitalisation have been utilised as the indicators of firm size.

Delen et al. (2013) explained that firm performance can be evaluated using financial ratio as it has been a traditional yet useful tool for business analysts, investors, creditors, and financial managers for better decision making. The financial performance of the firm is the analysis of measuring the firm's overall financial health with regard to the company's policies and operations in monetary terms (Trivedi, 2010). Thus, the financial performance of the firm can be measured by various ways and by applying different methods. The researcher explored the variables in determining the firm's profitability based on the relationship between firm size and firm financial performance. Generally, a financial analysis uses the profitability ratio to measure the firm's overall performance and efficiency. Several different studies have examined the variables that will influence firm performance towards the firm's business success, which mostly depends on the profitability of the firm. This is due to the profitability ratios that reveal the company's ability to gain better profit and it is also an indicator to show a satisfactory financial health and reveal how effectively the company is in managing its assets (Lesáková, 2007). However, in this research, the researcher measured firm performance using the profitability ratios, namely return on assets, return on equity and profit margin as indicators to measure the performance of firms. These ratios are commonly used to analyse the performance of a firm.

In this empirical study, the researcher focused on firm size and examined its effect on firm financial performance in the Malaysian ICT sector in order to determine the business success of a firm. Therefore, the dataset covers the listed firms in the Malaysian ICT industry from 2008 to 2012. The ICT firms selected in this study include both hardware and software, in which the companies' businesses are classified as advertising, alternative carriers, application software, broadcasting, communications equipment, data processing, outsourced services, integrated telecommunication services, internet software and services, IT consulting and other services, system software, technology distributors, and wireless telecommunication services.

## 1.3 Problem Statement

The development of the ICT sector not only benefits a single industry, it also complements and supports the development of other industry sectors, which increases the development of the government and private sector, and the people of Malaysia (Acutance Sdn Bhd, 2013). Malaysia has underwent a structural shift from manufacturing-based to a service-oriented economy from 1971 to 2007, and in 2008, the government accorded that the services sector, as well as ICT sector, had full potential in advancing Malaysia to become a high-income economy (Malaysian Ministry of Finance, 2009). However, in terms of performance and classification of group income, the latest report of the World Economic Forum shows that from 2012 to 2016, Malaysia is categorised in the group of emerging and developing Asian countries and is recognised as the most competitive economy on the upper-middle income from 2007 to 2017 (Baller et al., 2016; Schwab, 2017). Thus, in this decade the implementation of ICT has changed the practices within the business and governance in which it becomes an essential sector in economic development (Agbajor et al., 2014). However, some problems have been identified, as these problems the influential on the size of the firm towards firm performance of the ICT listed companies in Malaysia.

According to Prasetyantoko and Parmono (2012), bigger firms are supposed to be profitable than smaller firms, due to their large capacity and better access to their financing needs. In contrast, when in the time of economic crisis, some bigger firms would be riskier than smaller firms since the larger companies usually have more debts in their operation. Since the transition of the ICT industry from ICT manufacturing towards higher value-added ICT services, it is found that there are a decrease in the total export of ICT goods in Malaysia and a decrease in ICT manufacturing contribution towards the gross domestic product (GDP) (Malaysia Economic Planning Unit 2015). In addition, the economic slowdown has given a challenge for the Malaysian ICT sector as well as an impact on the growth potential in a developing country (Nations, 2012). Therefore, it is important to identify the influence of firm size on the performance of firms when facing economic and business fluctuations.

As the total assets measure the firm's resources while firm size in this study is proxy as the firm's total assets, thus there is an effect between firm size and profitability. There are some issue in which firm size can be a proxy for the probability of default and volatility of firm assets, by which the larger the firms' size, the more difficult to liquidate since they are less volatile in many aspects, especially in assets (Prasetyantoko & Parmono, 2012). However, some studies show an inverse influence in which a larger firm size would cause difficulties in managing the firm's effectiveness when solving problems in a bureaucratic management structure while the smaller size of a firm will increase the level of the profitability due to the limitation of assets, which urges the management to increase production levels at the optimum level (Margaretha & Supartika, 2016). The limitation of assets allows firms to define the strategy on outsourcing by renting the technology and tools from other firms to support the process of the production. Then, the smaller firms are able reduce the cost to buy an asset in return for increasing the production more efficiently and gaining higher profit. Therefore, it is vital to identify firm size based on the total assets that have positive and negative influences on firm financial performance in Malaysian ICT listed companies.

Total sales are more related to the product market thus it can be used to measure product market competition. Malaysia Digital Economy Corporation Sdn Bhd (MDEC) (2012), mentioned in the Multimedia Super Corridor (MSC) annual report in Malaysia, that the year-on-year total sales increased from RM21.75 billion in 2008 to RM33.53 billion in 2012. Yet, Sam and Hoshino (2013) stated that the oligopolistic price policy aims to gain higher sales revenue by minimising adequate profit, but if firms carried out too much sales maximisation, it could result in bankruptcy. This is supported by Dang et al. (2015) that the sales is consistent with the conventional wisdom that smaller firms have limited access to external financing and results in a higher probability of bankruptcy. The Organisation for Economic Co-operation and Development (OECD) (2010) also explained that the volume of sales is aimed to identify the ability of the management to manage its costs; thus when the number of the total sales is high, it will reduce the level of profitability and vice versa. There is an influence between firm size based on total sales and firm financial performance in which the result shows that if the firm that has a lower level of total sales, it will increase the level of profitability of the firm. Therefore, it is important to measure the effect of the total sales on the firm performance of ICT listed companies in Malaysia.

On the other hand, market capitalisation measures the firm's growth opportunities and equity market condition, which also represent the public consensus on the value of a company's equity (Skamo, 2012). Prasetyantoko and Parmono (2012) mentioned that the greater the capital market, the higher the market capitalisation growth; however, the greater capital market could mean greater volatility of the macroeconomy which decreases the firm's profitability. Market capitalisation is an indication of the value of the firm which also means the firm size is more relevant with the fundamental value of the firm, rather than market value; thus it may result in misleading evaluations of firm performance (Skamo, 2012; Prasetyantoko & Parmono, 2012). It can be explained as a firm that can perform better but still maintains in the lower level of market capitalisation as its reputation and products have not revealed the fancy of the masses (Pachori & Totala, 2012). In contrast, Buzzell et al. (1975) argued that the greater market capitalisation will bring higher profits based on the market power and lower costs resulting in economies of scale effects. Firms that pursue opportunities in growing markets rather than competing in the mature market, in which the firms seek to align their product offerings with market types, will enhance the firms' profitability (O'Regan, 2002). Therefore, it is important to examine the market capitalisation that influences firm performance to determine the success of the business of the Malaysian ICT listed companies.

## 1.4 Research Questions

The study aims to identify the influence of firm size on the performance of firms in the Malaysian ICT sector. Therefore, this study will attempt to answer the following research questions:

1. How does firm size affect the financial performance (ROA) of the Malaysian ICT sector?
2. How does firm size affect the financial performance (ROE) of the Malaysian ICT sector?
3. How does firm size affect the financial performance (profit margin) of the Malaysian ICT sector?

## 1.5 Research Objectives

In this study, the main objective is to identify the influence of firm size on the financial performance of Malaysian ICT firms covering the years 2008 to 2012. Therefore, the researcher intends to answer the research questions based on the research objectives provided in this study. The objectives of the research are shown as follows:

1. To analyse the effects of firm size on the financial performance (ROA) of the Malaysian ICT sector.
2. To investigate the effects of firm size on the financial performance (ROE) of the Malaysian ICT sector.